



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

APR 9 1991

MEMORANDUM:

SUBJECT: PP#7G3306: Request to extend the EUP, 62719-EUP-1;
Garlon® 3A (triclopyr) use in aquatic sites.
[DEB No.: 7612; MRID: n/a]

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DOW Chemical Company has requested to renew the existing Experimental Use Permit for Garlon® 3A in aquatic sites, 62719-EUP-1 (formerly 464-EUP), and to renew temporary tolerances for residues of triclopyr (3,5,6-trichloro-2-pyridinyloxyacetic acid) and its metabolites 3,5,6-trichloro-2-pyridinol and 2-methoxy-3,5,6-trichloropyridine at 0.2 ppm in fish, shellfish, and also a 0.5 ppm action level in potable water.

The requested extension of the EUP is for 24 months, Jan 1, 1991 - Dec 31, 1992. Dow Chemical Corp. is proposing to conduct testing in 22 different states throughout the U.S. as shown in Attachment 1.

Tolerances are established (40 CFR 180.417) for the combined residue of triclopyr and its metabolites 3,5,6-trichloro-2-pyridinol and 2-methoxy-3,5,6-trichloropyridine in or on grass forage (500 ppm) and grass forage hay (500 ppm). Tolerances are also established for the combined residue of triclopyr and its metabolite 3,5,6-trichloro-2-pyridinol in or on milk (0.01 ppm); meat, fat, and meat byproducts (except liver and kidney) of cattle, goats, hogs, horses and sheep at 0.05 ppm; and, liver and kidney of cattle, goats, hogs, horses and sheep at 0.5 ppm.

The proposed EUP acreage is greater than that previously approved in the original EUP. This EUP extension proposes the treatment of 2,040 acres (See Attachment 1) with approximately 48,960 lbs. of Garlon® 3A Herbicide (16,320 gallons). The stated purpose of the EUP extension is to evaluate the efficacy of the herbicide on a larger scale.

Conclusions

1. CBRS recommended for the original EUP and the temporary tolerances for residues of triclopyr (3,5,6-trichloro-2-pyridinyloxyacetic acid) and its metabolites 3,5,6-trichloro-2-pyridinol and 2-methoxy-3,5,6-trichloropyridine at 0.2 ppm in fish, shellfish, and also a 0.5 ppm action level in potable water.
2. CBRS estimates that, even with the increase in the use rate, the existing temporary tolerances will be adequate to cover all residues of triclopyr in or on fresh water fish, fresh water shellfish, and in potable water as a result of the proposed use.
3. Residue data used to estimate residues for this use were not produced by Craven Laboratories.

Recommendations

TOX considerations permitting, and provided one change is made to the label restrictions, CBRS recommends for an extension of the EUP and temporary tolerances.

Do not use within 5 miles of a potable water intake. (The proposed label restriction read: "Do not treat within 1 mile of domestic water intakes.")

NOTES to the PM: Many label restrictions allowed for the purposes of this EUP are not considered practical or enforceable for a permanent registration. For example, down stream users of irrigation water are not likely to be aware of triclopyr treatment and even if they are, they are not likely to restrict

water use if it interferes with their irrigation schedule. Therefore, residue data for crops irrigated with triclopyr-treated water will be required for permanent registration.

The restriction on trapping or digging for shellfish is only applicable to this EUP. It is not considered practical or enforceable for a permanent registration.

For permanent registration poultry metabolism and feeding studies must be submitted.

The registrant should also be reminded that before any permanent tolerance for triclopyr is established the possibility of the pyridinol analogue of TCDD (2,3,7,8-tetrachloro[1,4]dioxino[2,3-B:5,6-B']dipyridine) in the technical material must be addressed.

The residue chemistry data may also be required as discussed in Subdivision O of the Pesticide Assessment Guidelines (PAG).

It will also be necessary for the Office of Drinking Water to establish an Allowable Residue Level in Drinking Water (ARLDW) for triclopyr.

Detailed Considerations

No new data was submitted for review in support of this EUP extension request. The temporary tolerance requests are the same as in the existing EUP (62719-EUP-1). The use directions have been revised.

Two changes were made in the revised EUP label. The usage rate was increased from 1 and 1/2 gallons (4.5 lbs. a.i./Acre) to 2 gallons (6 lbs. a.i./Acre) for use on Annual and Perennial Herbaceous Weeds; and the label precaution stating: "Do not treat within 5 mile of domestic water intakes." was changed to read "Do not treat within 1 mile of domestic water intakes." Each of these changes to the proposed EUP label will be discussed in turn.

The increase in application rate should not result in residues that exceed the existing temporary tolerances. This is because a higher use rate has already been approved for use on woody brush and patches of perennial herbaceous weeds in the same EUP; and also the residue data submitted with the original EUP request were conducted at the 1.5X rate (3 gallons of formulated product).

Two lakes and the banks of six canals were treated with Garlon® (triclopyr) herbicides. In the lake studies the maximum concentration in the treated water after 24 hours was 0.41 ppm

which steadily decreased to less than the method detection limit (<0.01 ppm) at 14 days. In the canal studies there were no detected triclopyr residues after 24 hours in all cases. Therefore, the residue data previously considered adequate to justify the two temporary tolerances will also cover the application rate proposed. Residues approaching the estimated maximum of 0.5 ppm of residue, 24 hours after application, are only likely in impounded water sources (ponds, lakes or reservoirs) where there is no diluting or flushing effect. Residues in rivers and streams where there is a flow of water (i.e., dilution) should have considerable lower residues.

The available data suggest that residues of triclopyr in fish and shellfish/crayfish will not exceed the temporary tolerance even when fish are exposed to a higher concentration (2.5 ppm) of triclopyr than is anticipated to result as a result of the proposed use.

The increased application rate should not exceed the established temporary tolerance of 0.5 ppm in potable water, consequently, residues in fish and shellfish should not increase.

It must be emphasized that this temporary tolerance is considered appropriate given the label restriction against trapping or digging shellfish for two weeks in triclopyr-treated water. This restriction would not be considered enforceable for a permanent registrant and therefore a higher tolerance may be required for permanent registration.

Two aquatic field dissipation studies of residues of triclopyr are available (from the original EUP request and also in the unreviewed petition PP#1F3939).

Triclopyr was applied to two lakes by direct injection and aerial application at 2.5 ppm triclopyr acid equivalent to control herbaceous weeds. Water, sediment, aquatic plants, fish and clams/crayfish samples were taken both in and out of the treatment area one day prior to treatment and at the following intervals: 1 hour, 4 hours, 8 hours, 1 day, 3 days, 8 days, 12 days, 14 days, 21 days, and 42 days. The following is a discussion of the results at each of the experiment sites.

Banks Lake, Washington.

No bioaccumulation of triclopyr or trichloropyridinol (TCP) in fish tissue was detected. Additionally, no residues of triclopyr or TCP were detected in clams or crayfish. It should be noted that previous studies have reported a slight bioconcentration of triclopyr residues in fish tissues.

Lake Seminole, Georgia.

No bioaccumulation of triclopyr or TCP in fish tissue was detected. Peak levels of triclopyr residues in clams were observed at the day 1 sampling and were as high as 3.44 ppm. Residue levels declined to <0.10 ppm by day 8.

Crayfish had higher levels of residues than fish or clams. Crayfish were analyzed as a whole organism including the shell. Maximum residue peaked at 4 hours after spraying and were 0.25 - 4.87 ppm. Residue levels declined to 0.18 - 0.30 ppm by day 21, a much slower degradation. DowElanco states that most of the residue was in the shell and hemolymph both of which are non-edible portions of the crayfish.

CBRS accepts this explanation for the purposes of the temporary tolerance only. For a permanent tolerance data must be provided to support this conclusion.

The previously approved EUP label specified that treatment should not be made within 5 miles of domestic water intakes. Therefore the label should be modified to restrict use within 5 miles of a potable water intake rather than the proposed 1 mile restriction.

This restriction prohibiting treatment within 5 miles of potable water intakes is important. In fact, the registrant decided to restrict the use within 5 miles of potable water intakes in lieu of conducting poultry metabolism and feeding studies (See L. Cheng, Memorandum, 5/13/86) which would otherwise be required. The 5 mile restriction ensures that triclopyr residues in potable water are below the method detection limit. (Note: No metabolism or feeding studies are available for poultry.)

CC: Reviewer;PP#6G3306;SF;PMSD/PIB(C.Furlow);DRES;
Circulation.
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ATTACHMENT 1

STATE	Total Acres
Alabama	80
Arizona	80
California	200
Florida	200
Idaho	60
Indiana	80
Louisiana	80
Massachusetts	40
Michigan	160
Minnesota	160
Montana	20
New Jersey	80
New Mexico	80
New York	40
North Carolina	80
Ohio	80
Oklahoma	80
Pennsylvania	80
South Carolina	80
Texas	80
Washington	120
Wisconsin	80
Total	2,040

Experimental Use Permit proposed testing areas.

Attachment 1